

In the Claims:

Please amend claims 16, 17, 28, 29 and 36 as indicated below.

1. (Previously presented) A computer implemented method, comprising:

determining if servicing a consume request for a resource would cause a threshold rate that corresponds to the requested resource to be exceeded, wherein the consume request is received from one of a plurality of resource consuming isolates that are bound to one of a plurality of resource domains in which one or more respective resource policies for the requested resource are installed, and wherein the consume request specifies a measurable, consumable resource to be consumed during execution of one or more computations of the one of the plurality of resource consuming isolates; and

if the threshold rate would be exceeded, then delaying servicing of the request for at least a period of time sufficient to avoid exceeding the threshold rate;

wherein the threshold rate is specified in one of the one or more respective resource policies installed in the one of the plurality of resource domains that are bound to the one of the plurality of resource consuming isolates;

wherein the one of the plurality of resource domains associates the one of the one or more respective resource policies for the requested resource with the plurality of resource consuming isolates that are bound to the one of the plurality of resource domains; and

wherein an isolate is a set of one or more computations that do not share computational state with other computations.

2. (Previously presented) The method of claim 1, wherein a first isolate resolves a trigger that determines if the threshold rate would be exceeded and delays servicing of the request, wherein the first isolate is an isolate that monitors and controls resource requests for the resource separate from the implementation of the resource.

3. (Previously presented) The method of claim 2, wherein the first isolate monitors and controls resource requests based at least in part on a set of common attributes used to characterize the resource, wherein the set of attributes comprises one or more attributes indicating whether the resource is one or more of: disposable, revocable, reservable, and bounded.

4. (Previously presented) The method of claim 2, wherein the trigger is specified by a second isolate.

5. (Previously presented) The method of claim 4, wherein the second isolate installs the trigger in the one of the plurality of resource domains and the first isolate determines the trigger from the one of the plurality of resource domains.

6. (Previously presented) The method of claim 1, wherein the threshold rate indicates a maximum allowable resource usage by a particular resource consumer within a given interval.

7. (Previously presented) The method of claim 6, wherein the resource consumer comprises a client, an isolate, a process, or an application.

8. (Previously presented) The method of claim 6, further comprising recording previous consume requests from the resource consumer.

9. (Previously presented) The method of claim 6, further comprising recording previously consumed amounts of the resource.

10. (Previously presented) The method of claim 9, further comprising purging those recorded previously consumed amounts of the resource that fall beyond the given interval.

11. (Previously presented) The method of claim 9, wherein said determining comprises:

determining a current usage of the requested resource;

determining a potential usage of the resource based at least in part on the consume request;

determining previously consumed amounts of the resource within a given interval from the recorded previous consumed amounts; and

determining if the threshold rate will be exceeded based at least in part on the current usage, the potential usage, and the previously consumed amounts of the resource.

12. (Previously presented) The method of claim 11 wherein said determining if the threshold rate will be exceeded is in accordance with the following, wherein previouslyconsumedamount indicates the amount of the resource previously consumed within the given interval:

$$\text{amount_over_threshold} = \text{potentialusage} - \text{currentusage} + \text{previouslyconsumedamount} - \text{threshold}.$$

13. (Original) The method of claim 12 wherein the period of time is determined with the following:

$$\text{period_of_time} = (\text{amount_over_threshold} / \text{threshold}) * \text{interval}.$$

14. (Previously presented) The method of claim 1, wherein said delaying servicing of the request comprises sleeping for the period of time.

15. (Previously presented) The method of claim 1, wherein said determining if the threshold rate is exceeded comprises:

determining a rate of requests for the resource from a particular resource consumer; and

comparing the rate of requests against the threshold rate, wherein the threshold rate indicates a maximum number of allowable requests for the resource within a given interval.

16. (Currently amended) The method of claim ~~[[17]]~~ 15, wherein said determining the rate of requests comprises:

determining a number of requests for the resource received from the particular resource consumer over the given interval.

17. (Currently amended) The method of claim 1, embodied as a computer program product encoded in one or more non-transitory machine-readable storage media.

18. (Previously presented) A computer implemented method, comprising:

managing consume requests for a resource that are received from a plurality of computations that consume the resource and that are bound to one of a plurality of resource domains in which one or more respective resource policies for the resource are installed, wherein each of the consume requests specifies a measurable, consumable resource to be consumed during execution of one of the plurality of computations; and

throttling the consume requests to conform to a threshold;

wherein the threshold is specified in one of the one or more respective resource policies installed in the one of the plurality of resource domains that are bound to the plurality of computations, wherein the one of the plurality of resource domains associates the one of the one or more respective resource policies for the resource with the plurality of computations that are bound to the one of the plurality of resource domains.

19. (Previously presented) The method of claim 18, wherein said throttling the consume requests comprises delaying those consume requests that would cause the threshold to be exceeded.

20. (Previously presented) The method of claim 19, wherein said delaying comprises sleeping for a period of time.

21. (Previously presented) The method of claim 20, further comprising:

determining a current usage, a potential usage, and a previously consumed resource amount within an interval.

22. (Previously presented) The method of claim 21, wherein the period of time is determined in accordance with the following:

$$\text{amount_over_threshold} = \text{potentialusage} - \text{currentusage} + \text{previouslyconsumedamount} - \text{threshold}; \text{ and}$$

$$\text{period_of_time} = (\text{amount_over_threshold} / \text{threshold}) * \text{interval}..$$

23. (Previously presented) The method of claim 18, wherein the threshold comprises a threshold for a consumed resource amount, a threshold for a resource

consumption rate, a threshold for a number of resource consume requests, or a threshold for a consume request rate.

24. (Previously presented) The method of claim 18, wherein said managing consume requests comprises a dispenser isolate managing resource requests, wherein an isolate comprises a set of one or more encapsulated computations having a state that is independent of a state of other computations.

25. (Previously presented) The method of claim 24, wherein said throttling comprises the dispenser isolate resolving a trigger.

26. (Previously presented) The method of claim 25, wherein the trigger is specified by a second isolate.

27. (Previously presented) The method of claim 26, wherein said throttling further comprises the second isolate installing the trigger in the one of the plurality of resource domains.

28. (Currently amended) The method of claim 18, embodied as a computer program product encoded in one or more non-transitory machine-readable storage media.

29. (Currently amended) A non-transitory machine-readable storage medium storing program instructions executable to implement:

a posting facility that posts consume requests for resources;

a rate controller that delays resource consume requests that will cause a threshold to be exceeded; and

a plurality of resource domains that each associate one or more respective resource policies for a requested resource with a plurality of resource consuming isolates that are bound to the resource domain;

wherein an isolate is a set of one or more computations that do not share computational state with other computations;

wherein consume requests for the requested resource are received from one of the plurality of resource consuming isolates that are bound to one of the plurality of resource domains, and wherein each of the consume requests specifies a measurable, consumable resource to be consumed during execution of one or more computations of the one of the plurality of resource consuming isolates; and

wherein the threshold is specified in one of the one or more respective resource policies for the requested resource installed in the one of the plurality of resource domains that are bound to the one of the plurality of resource consuming isolates.

30. (Previously presented) The storage medium of claim 29, wherein the program instructions executable to implement the posting facility are dependent at least in part on a dispenser class, wherein the dispenser class defines an intermediary set of one or more computations that monitor and control resource requests.

31. (Previously presented) The storage medium of claim 30, wherein the program instructions executable to implement the rate control are dependent at least in part on a trigger class, wherein the trigger class defines one or more computations that query existence of at least one condition based at least in part on usage of a given resource.

32. (Previously presented) The storage medium of claim 29, wherein the threshold comprises a threshold for a consumed resource amount, a threshold for a

resource consumption rate, a threshold for a number of resource consume requests, or a threshold for a consume request rate.

33. (Previously presented) The storage medium of claim 29, wherein the program instructions executable to implement the rate control invoke a sleep computation to delay resource consume requests.

34. (Previously presented) The storage medium of claim 33, wherein the program instructions executable to implement the rate control is further executable to implement determining one or more of: a current resource usage, a potential resource usage, and a previously consumed resource amount within an interval.

35. (Previously presented) The storage medium of claim 34, wherein a period of time that the sleep computation is invoked is determined in accordance with the following:

$$\text{amount_over_threshold} = \text{potentialusage} - \text{currentusage} + \text{previouslyconsumedamount} - \text{threshold}; \text{ and}$$
$$\text{period_of_time} = (\text{amount_over_threshold} / \text{threshold}) * \text{interval}.$$

36. (Currently amended) A non-transitory machine-readable storage medium storing program instructions executable to implement:

a plurality of resource domains each associating one or more respective resource policies for a resource with a plurality of resource consuming isolates that are bound to the resource domain;

a first sequence of instructions determining if servicing a consume request from one of the plurality of resource consuming isolates that are bound to one of the plurality of resource domains will cause a threshold to be exceeded,

wherein the consume request specifies a measurable, consumable resource to be consumed during execution of one or more computations of the one of the plurality of resource consuming isolates; and

a second sequence of instructions determining a period of time to delay the request to avoid exceeding the threshold;

wherein an isolate is a set of one or more computations that do not share computational state with other computations;

wherein the threshold is specified in one of the one or more respective resource policies for the requested resource installed in the one of the plurality of resource domains.

37. (Previously presented) The storage medium of claim 36, wherein the threshold comprises a threshold for a consumed resource amount, a threshold for a resource consumption rate, a threshold for a number of resource consume requests, or a threshold for a consume request rate.

38. (Previously presented) The storage medium of claim 36, wherein the period of time to delay the request is based at least in part on a currently used amount of the resource, a potentially used amount of the resource based on the resource request, a previously consumed amount of the resource, a time interval, and the threshold, wherein the previously consumed amount of the resource indicates the amount of previously consumed resource within the interval.

39. (Previously presented) The storage medium of claim 38, wherein the period of time is determined according to the following:

$$\text{amount_over_threshold} = \text{potentialusage} - \text{currentusage} + \text{previouslyconsumedamount} - \text{threshold}; \text{ and}$$

$$\text{period_of_time} = (\text{amount_over_threshold} / \text{threshold}) * \text{interval}.$$

40. (Previously presented) The storage medium of claim 36, wherein said delaying the request comprises sleeping.

41. (Previously presented) An apparatus, comprising:

system memory; and

means for throttling requests for a resource that are received from a plurality of resource consuming isolates that are bound to one of a plurality of resource domains in which one or more respective resource policies for the resource are installed to comply with a threshold, wherein each of the requests specifies a measurable, consumable resource to be consumed during execution of one or more computations of one of the plurality of resource consuming isolates;

wherein an isolate is a set of one or more computations that do not share computational state with other computations;

wherein the threshold is specified in one of the one or more respective resource policies installed in the one of the plurality of resource domains that are bound to the plurality of resource consuming isolates, wherein the one of the plurality of resource domains associates the one of the one or more respective resource policies for the resource with the plurality of resource consuming isolates that are bound to the one of the plurality of resource domains.

42. (Previously presented) The apparatus of claim 41, wherein the threshold comprises a threshold for a consumed resource amount, a threshold for a resource

consumption rate, a threshold for a number of resource consume requests, or a threshold for a consume request rate.

43. (Previously presented) The apparatus of claim 41, further comprising means for determining if the threshold will be exceeded.

44. (Previously presented) The apparatus of claim 41, wherein the resource is characterized by a set of attributes that are common across different resources.

45. (Previously presented) The apparatus of claim 44, wherein the set of attributes comprises one or more attributes indicating whether the resource is one or more of: disposable, revocable, reservable, and bounded.